

Chapter-3

SYNTHETIC FIBRES AND PLASTICS

1. Explain why some fibres are called synthetic.

Ans: Since man-made fibres are obtained by the synthesis of petrochemicals, so they are called synthetic fibres.

2. Mark (✓) the correct answers :

Rayon is different from synthetic fibres because

(a) It has a silk like appearance.

(b) It is obtained from wood pulp.

(c) Its fibres can also be woven like those of natural fibres.

Ans: (b) it is obtained from wood pulp.

3. Fill in the blanks with appropriate words :

(a) Synthetic fibres are also called _____ or _____ fibres.

(b) Synthetic fibres are synthesized from raw material called _____ .

(c) Like synthetic fibres, plastic is also a _____ .

Ans: (a) Synthetic fibres are also called **artificial** or **man-made** fibres.

(b) Synthetic fibres are synthesized from raw material called **polymer**.

(c) Like synthetic fibres, plastic is also a **petrochemicals**.

4. Give examples which indicate that nylon fibres are very strong.

Ans: They are used to make parachutes and ropes for rock climbing.

5. Explain why plastic containers are favored for storing food.

Ans: The main advantages of using plastic for storing food are -

- a.** Plastic has light weight.
 - b.** Good strength.
 - c.** Easy to handle.
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6. Explain the difference between thermoplastic and thermosetting plastics.

Thermoplastic	Thermosetting plastics
<p>(i) These are the plastics which become soft on heating; they can be melted repeatedly by heating.</p> <p>(ii) These are used for making toys, combs and various types of containers.</p> <p>(iii) Ex- polythene, PVC, polystyrene, etc.</p>	<p>(i) These are the plastics which do not become soft on being exposed to moderately high temperatures.</p> <p>(ii) Used for making electrical switches and handles of various utensils.</p> <p>(iii) Ex- Bakelite, melamine etc.</p>

7. Explain why the following are made of thermosetting plastics.

(a) Saucepan handles

(b) Electric plug/ switches /plug boards

Ans: (a) Saucepan Handles: Saucepan handles are made from the thermosetting plastics because these are bad conductors of heat. They do not bend or deform on heating.

(b) Electric plug/Switches/Plug Boards: Electric plug/switches/plug boards are made from thermosetting plastics because thermosetting plastics are bad conductor of heat and electricity also. Hence it is used to make such articles.

EXTRA QUESTIONS

Q1. What is polymerization ?

Ans-The process of combining the monomer units into a large polymer is called polymerization.

Q2. Mention advantages and disadvantage of synthetic fibres?

Ans- 1. Synthetic fibres are strong, elastic, have high tensile strength, wrinkle free and easy to wash.

2.The production of synthetic fibres is independent of agricultural crops and animal farming.

3.The fibres are comparatively low cost as compared to natural fibres.

4.The fibres are not affected by the action of chemicals, moisture and bacteria easily.

5. Easy to maintain, as they retain the pleats and folds.

Disadvantages ---- produce

1. Synthetic fibres are hydrophobic, i.e., repel moisture or sweat. In other words, they do not allow our skin to breathe.
2. They are uncomfortable to wear, also have negative health effects, as our body uses the skin to eliminate toxins through sweat.
3. Synthetic fibres melt before burning. As a result, the clothes made of such fibres melt and stick to the skin in case of fire and cause heavy burns.
4. Synthetic fibres accumulate electric charge on them. As a result stick to the skin and causing irritation.

Q3. What is TEFLON?

Ans- Teflon is the brand name of polytetrafluoroethylene, a type of plastic, It has a high melting point and does not stick to the materials. This makes cooking effective and cleaning of the pan easy.